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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,486	12/08/2003	Claude Spino	GOUD:046US	2551

7590 04/07/2006

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EXAMINER
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CHOI, LING SIU

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/730,486	<b>Applicant(s)</b> SPINO ET AL.	
	<b>Examiner</b> Ling-Siu Choi	<b>Art Unit</b> 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 1-3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/10/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This Office Action is in response to the Response filed January 23, 2006 . Claims 4-8 of Group I have been elected.

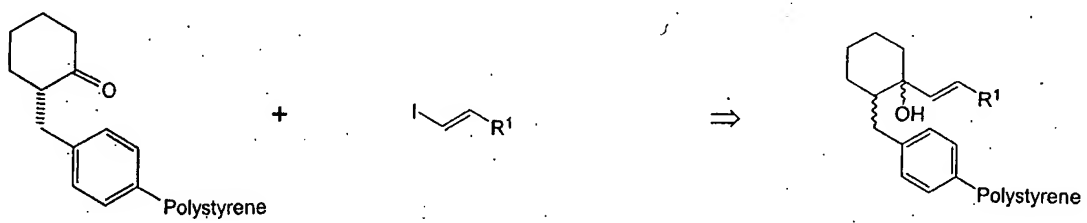
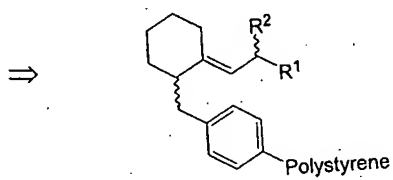
#### ***Claim Objections***

2. Claims 4-6 and 8 are objected to because of the following informalities: (a) Claim 4, line 6, "R1" is suggested to be change to --R<sup>1</sup>--; (b) Claim 5, line 3, "(R2)2CuLi, wherein R2" is suggested to be changed to --(R<sup>2</sup>)<sub>2</sub>CuLi, wherein R<sup>2</sup>--; (c) Claim 6, line 4, "R1 and R2" is suggested to be changed to --R<sup>1</sup> and R<sup>2</sup>--; and (d) Claim 8, line 4, "R1 and R2" is suggested to be changed to --R<sup>1</sup> and R<sup>2</sup>--.

Appropriate correction is required.

#### ***Claim Analysis***

3. Summary of claim 4:

A method for the synthesis of chiral compound libraries, comprising	
A	<p>reacting a vinyl iodide with the chiral resin to provide an allylic alcohol:</p> 
B	<p>transforming the allylic alcohol into an alkene :</p> 
C	oxidizing the alkene

### Claim Rejections - 35 USC § 103

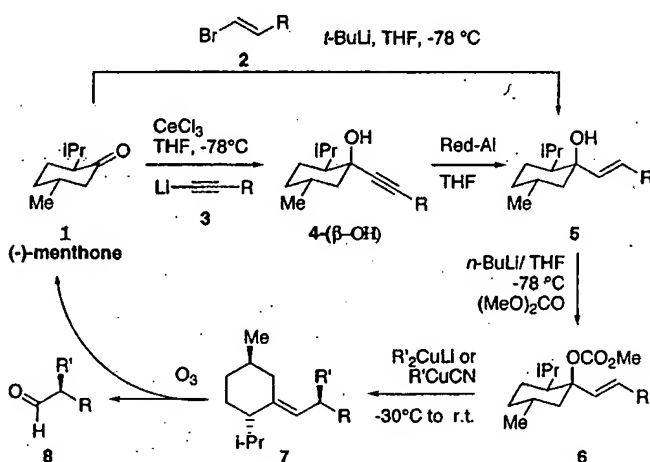
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spino et al. [J. Org. Chem. **65**, 7091-7097(2000)] in view of Guillier et al. [Chem. Rev. **100**, 2091-2157(2000)].

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Spino et al. [J. Org. Chem.] disclose the following reactions:



wherein the reactions comprising (a) the contact of vinyl bromide (2) and (-)-menthone (1) gives the corresponding allylic alcohol (5); (b) the allylic alcohol is then converted to its corresponding carbonate (6), followed by a reaction with alkyl cuprate to give compound (7); and (c) oxidative cleavage of compound (7) by ozonolysis gives aldehyde (8) (page 7091).

The difference between the present claims and the disclosure of Spino et al. [J. Org. Chem.] is the requirement of (a) vinyl iodide instead of vinyl bromide and (b) the menthone to be immobilized on polystyrene in the present invention.

With respect to (a), bromide and iodide are analogy. Thus, they are equivalent to and exchangeable with each other. With respect to (b), Guillier et al. disclose the use of a polystyrene as a support in solid-phase organic synthesis, the advantages of using the solid-phase organic synthesis being (a) the ease of chemistry, (b) the elimination of purification steps en route, (c) high concentrations of reagents can be used to drive reactions to completion, and (d) the straight forward nature of parallel solid-phase

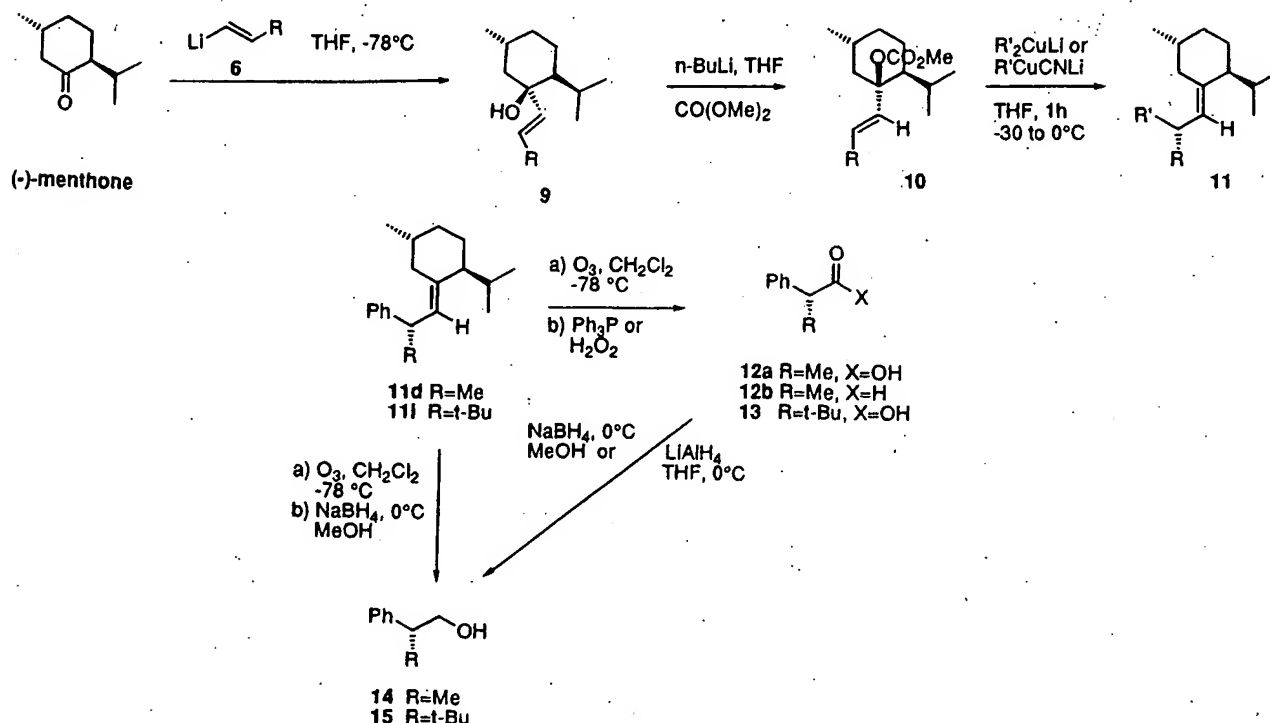
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synthesis (sections I and II). In light of such benefits, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the polystyrene to support the menthone and thereby obtain the present invention.

### Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Spino et al. [J. Am. Chem. Soc. **120**, 11832-11833(1998)] in view of Guillier et al. [Chem. Rev. **100**, 2091-2157(2000)].

Spino et al. [J. Am. Chem. Soc.] disclose the following reactions:



wherein the reactions comprising (a) the contact of alkenyl metal [Li or Mg] and (-)-menthone gives the corresponding allylic alcohol (9); (b) the allylic alcohol is then

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converted to its corresponding carbonate, followed by a reaction with alkyl cuprate to give compound (11); and (c) oxidative cleavage of compound (11) by ozonolysis give acid (12a), aldehyde (12b), or alcohol (14) (page 11832-11833). However, Spino et al. do not teach or fairly suggest a method to synthesize a chiral compound libraries, comprising the use of vinyl iodide.

7. Two references [Protective Groups in Organic Synthesis and The Chemist's Companion] cited in IDS will not be considered because both references have not received except of the title pages.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on 571-272-1114.

  
**LING-SUI CHOI**  
**PRIMARY EXAMINER**

March 25, 2006